

REMARKS

The Office Action dated May 26, 2004 has been received and carefully noted. The amendments made herein and the following remarks are submitted as a full and complete response thereto.

Claims 1-7 have been amended. Applicants submit that the amendments made herein are fully supported in the specification and the drawings as originally filed, and therefore no new matter has been added. Accordingly, claims 1-7 are pending in the present application and respectfully submitted for reconsideration.

The Office Action objected to the abstract of the disclosure. The abstract of the disclosure is amended to comply with U. S. Patent practice. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to the abstract of the disclosure.

The Office Action objected to the drawings. Figures 11 and 12 are corrected to include a legend --Prior Art--. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to the drawings. Applicants note that Figure 7 has been corrected to more clearly illustrate the subject matter of the present invention. Therefore, Applicants submit replacement Figure 7 for consideration.

The Office Action objected to claim 1 because of the informalities. Claim 1 is formally amended. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to claim 1.

Claims 1-7 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Claims 1-7 are amended to more clearly recite the claimed invention. In addition, Fig. 7 is corrected to more clearly support the

claimed invention. Applicants highlight pages 20-24 and Figs. 7 and 8 of the present application, which provides full, clear, concise and exact terms of the written disclosure to one skilled in the art to make and use the present invention in accordance with 35 U.S.C. §112, first paragraph. The “amount of weighting” as shown in Fig. 7 is a number (e.g., “1” or “2”), which is generated by a weight assigning amount generator 104 of Fig. 8 as a weight assigning amount S104, and is supplied to an adder 100 of Fig. 8. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-7 under 35 U.S.C. §112.

Claims 1-7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hulsing (U.S. Patent No. 5,095,264). Applicants respectfully submit that claims 1-7 recite subject matter that is neither disclosed nor suggested by the cited prior art.

Claim 1, as amended, recites a frequency measurement circuit having at least the limitations of “a frequency measurement unit” which “counts the reference clock by using a lighter amount of weighting to each count at a starting time and an ending time of the counting period, than the amount of weighting at the other times of the counting period.” As such, at least one of the advantages of amended claim 1 is that accuracy in measuring frequency is improved.

Applicants agree with the Examiner’s admission that Hulsing does not explicitly disclose to count the reference clock by assigning a lighter weight to the counter at a starting time and ending time of the counting period in place of sample time. The examiner further took the position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to recognize that the sample time would assign value to the counter to minimize the effect of a duty cycle to enhance the

accuracy of the frequency measuring. Applicants disagree with the Examiner's position because it is submitted that subject matter of the present invention would not have been obvious to one skilled in the art.

It is respectfully submitted that Hulsing fails to disclose or suggest each and every limitation of amended claim 1, and therefore fails to provide the advantages which are provided by the present application.

Hulsing discloses a dual-edge frequency counter 50 that includes a first counter 52 and a second counter 56. In Hulsing, it is merely disclosed that each of the first and second counters 52, 56 counts a reference clock pulses from reference clock 58 during a sample time including predetermined number (N) of waves of a sensor signal f_{in} .

Thus Hulsing fails to disclose or suggest at least the limitations of "a frequency measurement unit" which "counts the reference clock by using a lighter amount of weighting to each count at a starting time and an ending time of the counting period, than the amount of weighting at the other times of the counting period" as recited in amended claim 1. Accordingly, Applicants respectfully submit that Hulsing fails to disclose or suggest each and every limitation recited in amended claim 1 of the present invention, and therefore claim 1 is allowable.

As claim 1 is allowable, Applicants submit that claims 2-7, depending from allowable claim 1, are likewise allowable over the cited prior art.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-7 under 35 U.S.C. §103(a).

Conclusion

Applicants' amendments and remarks have clearly overcome the objections and rejections set forth in the Office Action dated May 26, 2004. Applicants' remarks have distinguished claims 1-7 from Hulsing and thus overcome the rejection of these claims under 35 U.S.C. §103(a). Accordingly, claims 1-7 are in condition for allowance. Therefore, Applicants respectfully request reconsideration and allowance of claims 1-7.

Applicants submit that the application is in condition for allowance. If the Examiner believes that the application is not in condition for allowance, Applicants respectfully request that the Examiner contact the undersigned attorney by telephone, if it is believed that such contact will expedite the prosecution of the application.

In the even that this paper is not considered to be timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 01-2300, referencing attorney docket number 108066-00102.

Respectfully submitted,



Sam Huang
Registration No. 48,430

Customer No. 004372
ARENT FOX PLLC
1050 Connecticut Avenue, N.W.,
Suite 400
Washington, D.C. 20036-5339
Tel: (202) 857-6000
Fax: (202) 638-4810

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